

Case: NI 138

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Applicant(s): Fritz Appel

Examiner: S. Ip

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Art Unit: 1742

Title: METHOD FOR THE TREATMENT OF METALLIC MATERIALS

Commissioner for Patents  
 Alexandria, VA 22313-1450

June 15, 2004

SIR:

PETITION FOR AN EXTENSION OF TIME PURSUANT TO 37 CFR 1.136

The undersigned requests an extension of time, by three months, of the period for response in the above-identified application, which period was originally set by the Examiner to expire on 03/18/04. The new due date is 06/18/04.

Please charge the fee of \$ 950.00 for the additional three months as required for this petition to account No. 500465.

Respectfully submitted,

*K. Bach*

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 Agent for Applicants

7. (original) A method according to claim 1, wherein said blank is heated by electrical induction heating.

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- a) a blank of a metallic material is provided,
- b) the blank is heated to a transformation temperature, and
- c) the blank is then deformed by twisting the blank about a longitudinal axis thereof while the blank is compresses in the direction of the longitudinal axis.

Such a process is certainly not disclosed in the reference cited by the Examiner.

US-A-5 262 123 discloses a method of forming or reforming a composite particulate materials by compressing mixtures of the material between two relative rotating members between which the powder or particulate material mixture is compressed in a compression chamber and friction heated and then extruded from the compression chamber.

The method described in this patent is based on a principle different from that according to the invention: The material consolidation, that is, a fine grain lattice structure is obtained by localized shearing and heating of the particles and subsequent extrusion of the material, see col. 1, lines 49 - 54: "The formed composite material is extruded from a hot working zone which is maintained at temperature by shearing action and which is extruded due to the pressure applied". (See also column 2, lines 45 - 50).

The powdered or particulate material mixture may be heated adiabatically by the friction generated by the rotating plunger. The process is termed by the inventors as being a friction extrusion process (Col. Lines 12 - 15). In summary, it can be clearly said that the method as disclosed in US-A-5 262 123 differs in principle from the method according to the present invention which utilizes twisting and compression of the blank of the material. In addition, there is no adiabatic heating by friction.

It is noted at this point that claim 1 was not rejected by the Examiner as being anticipated by the references but as being obvious from the cited reference US A 5 262 123.

The cited reference, US-A-5 262 123, does not disclose that a blank of a metallic material is provided - rather, it discloses that the material is provided in powder or particulate form.

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